



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/568,147

02/13/2006

Kanshi Chinone

062110

7793

38834 7590 10/16/2009  
WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP  
1250 CONNECTICUT AVENUE, NW  
SUITE 700  
WASHINGTON, DC 20036

EXAMINER

PARVINI, PEGAH

ART UNIT

PAPER NUMBER

1793

NOTIFICATION DATE

DELIVERY MODE

10/16/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentmail@whda.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/568,147	<b>Applicant(s)</b> CHINONE, KANSHI	
	<b>Examiner</b> PEGAH PARVINI	<b>Art Unit</b> 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) 6 and 7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 8, 2009 has been entered.

### ***Election/Restrictions***

Newly submitted **claims 6-7** are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: claims 6-7 are drawn to a process for producing a polishing slurry for semiconductor planarization. It is to be noted that claims 6-7 were submitted on 5/15/2008, after the Applicant had received an action on the merits for the originally presented invention which was drawn to the polishing slurry, and the submission of these two new claims was responded in the Office action mailed on 7/14/2008. However, since instant application is a National Stage Application of a PCT filed under 35 U.S.C. 371, a new reason for restriction under the Unity of Invention is being made below:

Group I, claim(s) 1-5, drawn to a polishing slurry.

Group II, claim(s) 6-7, drawn to a method for producing a polishing slurry.

The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or

Art Unit: 1793

corresponding special technical features for the following reasons: The technical feature which is a polishing slurry comprising cerium oxide having particle size of less than 3 m due to the recitation of "cerium oxide particles having a diameter of at least 3 m is not more than 500 ppm" since "not more than" is interpreted to include zero, has been taught in Lortz et al. which discloses an aqueous dispersion containing a cerium oxide having an average particle size in the dispersion which is less than 100 nm.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 6-7 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claims 1-5** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It appears that claim 1 is a fragment specially because it ends with the statement of "and the weight of all the solids in the polishing slurry". In other words the preceding statement of "calculated based on the weight of particles obtained by filtering with a film filter for analysis on which hole diameter of 3 µm are formed" is fine, but when the next segment (i.e. "and the weight of all the solids in the polishing slurry") starts, it seems that the segment is lacking a verb and is a fragment.

Claims 2-5 are rejected as being dependent upon a rejected claim.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1, 3 and 5** are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent Application Publication No. 2002/0095873 to Lortz et al.

Lortz et al. teach an aqueous (i.e. water is present) dispersion containing cerium oxide having an average particle size of less than 100 nm used in polishing (Abstract; [0009]).

It is to be noted that the recitation of instant claim stating that “cerium oxide particles having a diameter of at least 3  $\mu\text{m}$  is not more than 500 ppm” is interpreted to mean that no particles is greater than 3  $\mu\text{m}$  specially considering the fact that “not more than” is interpreted to include zero.

Furthermore, it should be noted that the disclosure of the average particle size of 100 nm or less is taken to encompass 99% of particles having a size of less than 1  $\mu\text{m}$ .

With reference to the recitation drawn to the calculating (i.e. measuring) the particle size, it is to be noted that it is well established that the use of process limitations to define the product claim do not patentably distinguish the product and do not add patentable weight to the examination of the product claim. The fact that the reference

Art Unit: 1793

teaches cerium oxide polishing slurry that can contain no coarse particles (i.e. no particles larger than 100 nm) is seen to read on the instantly claimed composition.

Moreover, the recitation of “for semiconductor planarization” is an intended use; with reference to such limitations, MPEP § 2111.02 states:

During examination, statements in the preamble reciting the purpose or intended use of the claimed invention must be evaluated to determine whether the recited purpose or intended use results in a structural difference (or, in the case of process claims, manipulative difference) between the claimed invention and the prior art. If so, the recitation serves to limit the claim. See, e.g., *In re Otto*, 312 F.2d 937, 938, 136 USPQ 458, 459 (CCPA 1963).

**Claims 1-3 and 5** are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,299,659 to Kido et al.

Regarding claim 1, Kido et al. disclose a polishing composition comprising water and cerium oxide particles having a primary particle size of, preferably about 0.02 to about 0.2  $\mu\text{m}$  (Abstract; column 4, lines 57-61).

It is to be noted that “not more than” in instant claims is interpreted to include zero; thus, the recitation of “cerium oxide particles having a diameter of at least 3  $\mu\text{m}$  is not more than 500 ppm” is interpreted to mean that the particles have a size of not more than 3  $\mu\text{m}$ .

With reference to the method of calculating (i.e. measuring) the particle size of the cerium oxide, it is to be noted that it is well established that the use of process limitations to define the product claim do not patentably distinguish the product and do

Art Unit: 1793

not add patentable weight to the examination of the product claim. The fact that the reference teaches cerium oxide polishing composition that can contain no coarse particles (i.e. no particles having primary particle size of greater than about 0.2 $\mu$ m) is seen to read on the instantly claimed composition.

Moreover, the recitation of "for semiconductor planarization" is an intended use; with reference to such limitations, MPEP § 2111.02 states:

During examination, statements in the preamble reciting the purpose or intended use of the claimed invention must be evaluated to determine whether the recited purpose or intended use results in a structural difference (or, in the case of process claims, manipulative difference) between the claimed invention and the prior art. If so, the recitation serves to limit the claim. See, e.g., *In re Otto*, 312 F.2d 937, 938, 136 USPQ 458, 459 (CCPA 1963).

Regarding claim 2, Kido et al. teach the use of additives such as surfactant (i.e. dispersing agent) (column 7, lines 25-30).

Regarding claim 3, the disclosure of Kido et al. teaching a primary particle size of preferably about 0.02 to about 0.2  $\mu$ m as detailed out above encompasses instant claim 3.

Regarding claim 5, it is to be noted that said claim is a product-by-process claim; therefore, the limitations drawn to the process do not add patentable weight to the examination of the product claims. See MPEP 2113.

**Claims 1 and 5** are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,478,836 to Kido et al.

Kido et al. '836 disclose cerium oxide slurry for polishing comprising cerium oxide particles dispersed in water wherein the cerium oxide particles have a particle size of, preferably about 2.0  $\mu\text{m}$  or less (Abstract; column 4, lines 45-51).

It is to be noted that “not more than” in instant claims is interpreted to include zero; thus, the recitation of “cerium oxide particles having a diameter of at least 3  $\mu\text{m}$  is not more than 500 ppm” is interpreted to mean that the particles have a size of not more than 3  $\mu\text{m}$ .

With reference to the method of calculating (i.e. measuring) the particle size of the cerium oxide, it is to be noted that it is well established that the use of process limitations to define the product claim do not patentably distinguish the product and do not add patentable weight to the examination of the product claim. The fact that the reference teaches cerium oxide polishing composition that can contain no coarse particles (i.e. no particles having primary particle size of greater than about 0.2 $\mu\text{m}$ ) is seen to read on the instantly claimed composition.

Moreover, the recitation of “for semiconductor planarization” is an intended use; with reference to such limitations, MPEP § 2111.02 states:

During examination, statements in the preamble reciting the purpose or intended use of the claimed invention must be evaluated to determine whether the recited purpose or intended use results in a structural difference (or, in the case of process claims, manipulative difference) between the claimed invention and the prior art. If so, the recitation serves to limit the claim. See, e.g., *In re Otto*, 312 F.2d 937, 938, 136 USPQ 458, 459 (CCPA 1963).



Art Unit: 1793

With further reference to claim 5, it is to be noted that said claim is a product-by-process claim; therefore, the limitations drawn to the process do not add patentable weight to the examination of the product claims. See MPEP 2113.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent No. 6,299,659 to Kido et al.

Kido et al. teach that their cerium oxide particles have a secondary particle size of not greater than 1  $\mu\text{m}$ ; therefore, it is apparent that there is overlapping ranges of particle size for median diameter of secondary particles with the ones instantly claimed. Overlapping ranges have been held to establish prima facie obviousness. See MPEP § 2144.05.

**Claims 2-4** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent No. 6,478,836 to Kido et al.

Art Unit: 1793

Regarding claim 2, even though the reference may not expressly disclose the use of a dispersing agent in the polishing slurry, it discloses dispersing cerium oxide particles in said slurry. Therefore, it is apparent that a dispersing agent should exist in the polishing slurry. This is further, motivated by the fact that the reference, in the background of the invention, discloses that it is conventional for cerium oxide slurries to have a dispersant.

Regarding claim 3, it is to be noted that the disclosure of Kido et al. on the particle size of 2.0  $\mu\text{m}$  or less would broadly encompass the recitation of claim 3 specially because less than 2.0  $\mu\text{m}$  includes any and all values below that; in other words, there is overlapping ranges for the particle size as disclosed by the reference and the recitation of claim 3.

Regarding claim 4, it is to be noted that the abrasives in a slurry composition are in the form of agglomerate; therefore, the size disclosed by the reference is applicable as secondary particle size, and again it has overlapping ranges with the ones instantly disclosed for the secondary particle size recited in instant claim 4. Even if not taking the particles in a slurry in the form of agglomerate but taking them as primary particle size, it would have been apparent that there is overlapping ranges of secondary particle size with the ones instantly claimed specially motivated by the fact that less than 2.0  $\mu\text{m}$  includes any and all values below 2.0  $\mu\text{m}$ .

**Claims 1-5** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 2003/0064671 to Pasqualoni et al.

Regarding claim 1, Pasqualoni et al. disclose polishing slurry composition used in semiconductor manufacturing comprising a dispersion solution comprising an abrasive wherein the slurry composition has a large particle count of less than about 150,000 particles having a particle size greater than 0.5 microns in 30  $\mu$ L of slurry (Abstract). Since "less than" includes zero, said disclosure is interpreted to mean that the particle size could be less than 0.5 microns. Furthermore, the reference teaches the use of ceria in said slurry as well ([0019]). Therefore, this is taken to broadly read on the instant claims limitations. It is to be noted that the reference states that in said composition, an aqueous solution containing abrasives and other components are suspended; therefore, implying the existence of water in such compositions of the Pasqualoni et al. reference ([0003]).

It is to be noted that "not more than" in instant claims is interpreted to include zero; thus, the recitation of "cerium oxide particles having a diameter of at least 3  $\mu$ m is not more than 500 ppm" is interpreted to mean that the particles have a size of not more than 3  $\mu$ m.

With reference to the method of calculating (i.e. measuring) the particle size of the cerium oxide, it is to be noted that it is well established that the use of process limitations to define the product claim do not patentably distinguish the product and do

Art Unit: 1793

not add patentable weight to the examination of the product claim. The fact that the reference teaches a polishing composition that can contain particles of less than 0.5  $\mu\text{m}$  is seen to read on the instantly claimed composition.

Regarding claim 2, the reference teaches the use of surfactant (i.e. dispersing agent) as additives in said composition ([0029]).

Regarding claim 3, since based on the teaching of the reference the size of the particles could be less than 0.5 microns; therefore, this is seen to read on the limitation of instant claim 3.

Regarding claim 4, it is to be noted that the abrasives in a slurry composition are in the form of agglomerate; therefore, the size disclosed by the reference is applicable as secondary particle size. Even if not taking the particles in a slurry in the form of agglomerate but taking them as primary particle size, it would have been apparent that there is overlapping ranges of secondary particle size with the ones instantly claimed specially motivated by the fact that less than 0.5  $\mu\text{m}$  includes any and all values below 0.5  $\mu\text{m}$ .

Regarding claim 5, it is to be noted that said claim is a product-by-process claim; therefore, the limitations drawn to the process do not add patentable weight to the examination of the product claims. See MPEP 2113.

**Claims 1-5** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 2004/0031206 to Uchino et al.

Regarding claim 1, Uchino et al. teach a cerium-based abrasive slurry particles having  $0.2\mu\text{m} \leq D_{50} \leq 1.0\mu\text{m}$  and  $0.5\mu\text{m} \leq D_{\text{max}} \leq 5.0\mu\text{m}$ ; therefore, there is overlapping ranges of particle size with the ones instantly claimed, and overlapping ranges have been held to establish *prima facie* obviousness. See MPEP § 2144.05. The reference, further, discloses that said slurry may be applied to polish semiconductor materials ([0027]). It is to be noted that by “cerium-based” abrasive, the reference is referring to cerium oxide as also shown in [0058].

Furthermore, the reference broadly discloses that usually the cerium-based abrasive is used in a state of slurry dispersed in dispersion media, such as water ([0003]).

It is to be noted that “not more than” in instant claims is interpreted to include zero; thus, the recitation of “cerium oxide particles having a diameter of at least 3  $\mu\text{m}$  is not more than 500 ppm” is interpreted to mean that the particles have a size of not more than 3  $\mu\text{m}$ .

With reference to the method of calculating (i.e. measuring) the particle size of the cerium oxide, it is to be noted that it is well established that the use of process limitations to define the product claim do not patentably distinguish the product and do not add patentable weight to the examination of the product claim. The fact that the

Art Unit: 1793

reference teaches cerium oxide polishing composition that can contain particles having a maximum size of 0.5 microns to 5.0 microns is seen to read on the instantly claimed composition as it has overlapping ranges with the ones instantly claimed.

Moreover, the recitation of “for semiconductor planarization” is an intended use; with reference to such limitations, MPEP § 2111.02 states:

During examination, statements in the preamble reciting the purpose or intended use of the claimed invention must be evaluated to determine whether the recited purpose or intended use results in a structural difference (or, in the case of process claims, manipulative difference) between the claimed invention and the prior art. If so, the recitation serves to limit the claim. See, e.g., *In re Otto*, 312 F.2d 937, 938, 136 USPQ 458, 459 (CCPA 1963).

Regarding claim 2, the reference discloses that at least a dispersant is used as well ([0024]).

Regarding claim 3, it is noted that the disclosure of the reference of having a maximum particle size of between 0.5µm to 5.0µm would have overlapping ranges with the one instantly claimed.

Regarding claim 4, since the reference teaches an overlapping ranges of particles size for cerium oxide particles which would have overlapping ranges with the range disclosed in claim 4, the disclosure of the reference is seen to encompass the recitation of instant claim 4.

Art Unit: 1793

Regarding claim 5, it is to be noted that said claim is a product-by-process claim; therefore, the limitations drawn to the process do not add patentable weight to the examination of the product claims. See MPEP 2113.

**Claims 1-5** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,221,118 to Yoshida et al.

Regarding claim 1, Yoshida et al. disclose a slurry comprising cerium oxide abrasive having primary particle size of from 10 nm to 600 nm (i.e. less than 3  $\mu\text{m}$ ) and a maximum diameter of 3,000 nm or less (Abstract; column 3, lines 33-52; column 4, lines 8-15). Additionally, the reference discloses that the particles are dispersed in a medium such as water (column 3, lines 15-20; column 2, lines 4-6).

It is to be noted that “not more than” in instant claims is interpreted to include zero; thus, the recitation of “cerium oxide particles having a diameter of at least 3  $\mu\text{m}$  is not more than 500 ppm” is interpreted to mean that the particles have a size of not more than 3  $\mu\text{m}$ .

With reference to the method of calculating (i.e. measuring) the particle size of the cerium oxide, it is to be noted that it is well established that the use of process limitations to define the product claim do not patentably distinguish the product and do not add patentable weight to the examination of the product claim. The fact that the reference teaches cerium oxide polishing composition that can contain particles having

Art Unit: 1793

a maximum diameter of 3,000 nm or less is seen to read on the instantly claimed composition.

Moreover, the recitation of “for semiconductor planarization” is an intended use; with reference to such limitations, MPEP § 2111.02 states:

During examination, statements in the preamble reciting the purpose or intended use of the claimed invention must be evaluated to determine whether the recited purpose or intended use results in a structural difference (or, in the case of process claims, manipulative difference) between the claimed invention and the prior art. If so, the recitation serves to limit the claim. See, e.g., *In re Otto*, 312 F.2d 937, 938, 136 USPQ 458, 459 (CCPA 1963).

Regarding claim 2, a dispersant may be used as well (column 2, lines 4-6).

Regarding claim 3, since the reference teaches cerium oxide abrasives having primary particle size of from 10 nm to 600 nm and a maximum diameter of 3,000 nm or less, this is seen to encompass the recitation of instant claim 3.

Regarding claim 4, considering the fact that the reference teaches ceria abrasives having primary particle size of from 10 nm to 600 nm and a maximum diameter of 3,000 nm or less, it is apparent that the secondary particle size would be in the way to have overlapping ranges with the ones instantly claimed in claim 4 specially considering the fact that the maximum particle size may be less than 3000 nm and this is taken to mean any and all values below 3000 nm.



Regarding claim 5, it is to be noted that said claim is a product-by-process claim; therefore, the limitations drawn to the process do not add patentable weight to the examination of the product claims. See MPEP 2113.

### ***Response to Amendment***

Applicant's amendment to claim 1, filed May 15, 2009, page 2 is acknowledged. However, said amendment is not sufficient to place the claim or application in condition for allowance.

Applicant's amendment to claim 6, filed May 15, 2009, page 2 is acknowledged; however, claim 6 is not drawn to the invention as elected by original presentation as detailed above. Thus, said claim is withdrawn from further consideration.

### ***Response to Arguments***

Applicant's arguments filed May 15, 2009 have been fully considered but they are not persuasive.

With reference to the election/restriction made in the previously for claim 6-7, the Examiner acknowledges that instant application is a 371, and an election should be made differently than what was presented in page 2 of the Final Rejection mailed on 7/14/2008; nevertheless, since applicant has received an action on the merits for the originally presented invention (i.e. a polishing slurry and not a method for producing a

Art Unit: 1793

polishing slurry), this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 6-7 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Applicants have argued that the cited references are all different from that of the present application in that they all disclose particle size measured by a laser diffraction type particle size distribution meter which is different than what is instantly claimed.

The Examiner, respectfully, submits that said argument is not found persuasive because the limitations drawn to the process of measurement of the particle size are considered process limitations in a product claims; therefore, they do not add patentable weight to the examination of the product claims. Considering the fact that the cited references disclose polishing slurries or compositions meeting the limitation with reference to the type of abrasive and particle size, either in an anticipatory or in overlapping form, is taken to read on the limitations of instant claims, again, noting the process limitations do not patentably distinguish the product claims.

The Examiner acknowledged the submission of the declaration, filed 5/15/2009, attempting to compare the abrasives of Yoshida et al. (U.S. Pat. No. 6,221,118) and Pasqualoni et al. (U.S. Pat. App. No. 2003/0064671) with that of the instant application.

Nevertheless, the declaration is not sufficient to overcome the rejection over Yoshida et al. '118 because, **(1)** it provides a comparative table which is only based on

Art Unit: 1793

Example 1 of said reference, a reference should be taken in view of all it teaches not only in view of its Examples, **(2)** although Table 1 as presented in declaration shows a higher content of large particles which are 3.0  $\mu\text{m}$  or bigger for Sample X which represents Example 1 of Yoshida et al., Applicant has stated "However, the large-particle content in the sample X was smaller than that in the sample Y" in page 7, lines 2-3 which makes it unclear whether the content of large particles in sample X was smaller or bigger than that of sample Y, **(3)** it is not clear as to why sample Y (i.e. sample B) was filtered twice through a filter having a pore diameter of 1.0  $\mu\text{m}$ .

Furthermore, the declaration is not sufficient to overcome the rejection over Pasqualoni et al. '671 because it is not clear as what samples B through C and E are exactly (page 10 of declaration). For example, based on the definition provided for sample B, does it mean that in sample B, cerium oxide was substituted for silica by stating that "satisfy Pasqualoni's condition". Also, as to sample C, what is it exactly meant by stating that sample C "satisfy Pasqualoni's condition" but not "the present invention condition"; does it mean that it satisfy a specific example of Pasqualoni or lese? As for sample E, what does it mean to use cerium oxide which "neither satisfy Pasqualoni's condition" nor "the present invention condition"?

It is to be noted that while the disclosure of Pasqualoni et al. encompass a slurry having abrasive particles which could be greater than 0.5 microns and in which the abrasives may be cerium oxide, as detailed out above, the reference is seen to read on the limitation of instant claims as detailed above.

Finally, the declaration is not sufficient to overcome the rejection in view of Uchino et al. and Kido et al. (6,478,836) since said declaration does not address the rejection based on those references.

Applicants have argued that cerium oxide and silica are not readily interchangeable in Pasqualoni et al.

It is, respectfully, submitted that Pasqualoni et al. although disclosing the use of silica as the abrasive material, further, disclose the use of additional materials such as ceria ([0019]). Considering the fact that the reference as a whole, where talking about particle size, refers to "abrasive", this is taken to apply to all abrasives used in Pasqualoni et al. Thus, the slurry of said reference is taken to have both silica and ceria having a size which could be less than 0.5 microns in polishing slurry. It is to be noted that instant claims recite a polishing slurry "comprising" of cerium oxide.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PEGAH PARVINI whose telephone number is (571)272-2639. The examiner can normally be reached on Monday to Friday 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1793

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Pegah Parvini/  
Examiner, Art Unit 1793

/J.A. LORENZO/  
Supervisory Patent Examiner, Art  
Unit 1793